

DLF Forum

Page Turning & Other Related Stuff

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Agenda

- **Today's Agenda: *Page-Turners***
 - **Encoding Digital Objects**
 - **Client/Repository Interactions**
 - **Page Turning with Standard Objects and Methods Calls within the MoA II Architecture**
- **Yesterday's Agenda: *Repositories***
 - **MoA II Background**
 - **The MoA II Digital Library Service Model**
 - **Berkeley's Current Thinking on Repositories**
 - **MoA II Architecture: Theory and Model Stuff**

Encoding Digital Library Objects

The MOA2 XML DTD

Object Encoding: Metadata and Content

- **Available at the MoA II Website**
 - The DTD,
 - a Tutorial Explaining the DTD and
 - an Example Encoded Document can be found at <http://sunsite.berkeley.edu/moa2/>
- **The DTD has Three Sections**
 - File Inventory
 - Administrative Metadata Section
 - Structural Map

DTD: File Inventory

<FileGrp VERSDATE='1998-09-01' ADMID='HIREZJPG
IPRIGHTS IMGSRC'>

<File ID='HRJ1' MIMETYPE='image/jpg' SEQUENCE='1'
SIZE='220346' CREATED='1998-09-01' >

<FLocat LOCTYPE='URL'>

<http://sunsite.berkeley.edu/~jmcdonou/CPR1-hi.jpg>

</FLocat>

</File>

<File ID='HRJ2' MIMETYPE='image/jpg' SEQUENCE='2'
SIZE='220346' CREATED='1998-09-01' >

<FLocat LOCTYPE='URL'>

<http://sunsite.berkeley.edu/~jmcdonou/CPR2-hi.jpg>

</FLocat>

</File>

</FileGrp>

DTD: Administrative Metadata

<AdminMD ID="HIREZJPG">

<FileMgmt>

<Image>

<Compression>JPEG</Compression>

<Dimensions X='1536' Y='1024' />

<BitDepth BITS='16' />

<ColorSpace>RGB</ColorSpace>

<CLUT FResident='YES'></CLUT>

<Resolution>200 DPI</Resolution>

</Image>

</FileMgmt>

</AdminMD>

DTD: Structural Map

<StructMap>

**<div N='1' TYPE='Diary' LABEL='Diary of Patrick Breen, or
Guess Who's Coming for Diner? '>**

<div N='1' TYPE='Diary' LABEL='Page 1'

<fptr FILEID='HRJ1' MIMETYPE='image/jpeg' />

<fptr FILEID='GIF' MIMETYPE='image/gif' />

</div>

<div N='2' TYPE='Diary' LABEL='Page 2'

<fptr FILEID='HRJ2' MIMETYPE='image/jpeg' />

<fptr FILEID='GIF' MIMETYPE='image/gif' />

</div>

</StructMap>

Client / Repository Interactions

Client / Repository Interactions

- **Establish Client/Repository Communications via the RMI Registry**
- **Client-side Objects**
 - TOC and Resource Frame Objects
- **The MoA II Repository Object**
- **Objects Shared Between Client & Repository**
- **Methods used for:**
 - Document Activation (initial displays)
 - Page Turning (next, previous, from the TOC)
 - Etc.

Establish

Client/Repository Communications

- **RMI Registry (basic naming service)**
 - **Client and Repository communications are bootstrapped using the RMI Registry**
 - **MoA2 RMI compliant repositories register with the RMI Registry when they become active**
 - **Clients can lookup active repositories in the registry and are returned a RMI reference to the repository**
 - **With the reference, the client can call methods defined by the MOA2Repository Interface**

MoA II Client Viewer (page turner)

- **Java Applet**
 - **TOC and Resource Frame Objects**
- **Uses RMI (Remote Method Invocation) to Communicate with a Distributed Repository**

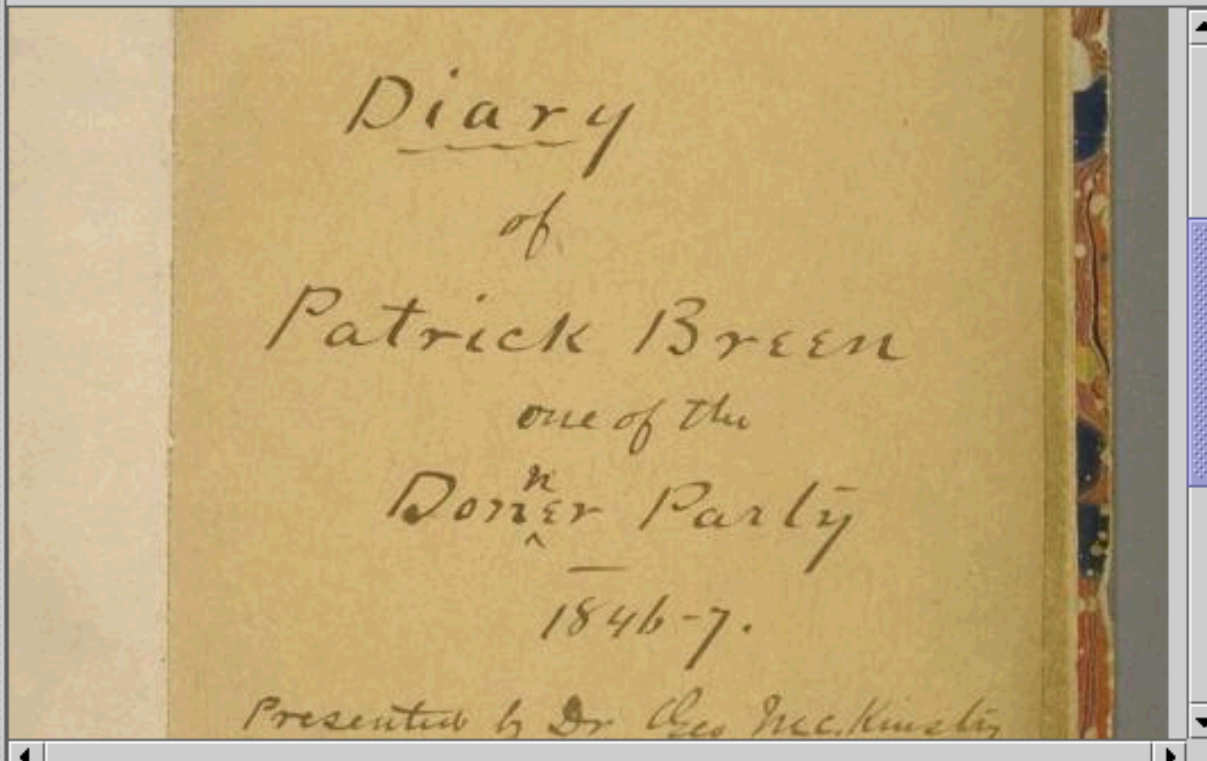


Window View

Diary of Patrick Breen

- Friday Nov. 20th 1846 [Page 1]
- Entry sat. 21st [Page 2]
- Sunday 22nd [Page 2]
- monday 23rd [Page 2]
- tuesday 24th [Page 3]
- wednesday 25th [Page 3]
- Thursd day the 26th [Page 3]
- Friday 27 [Page 3]
- Saturday 28th [Page 3]
- Sunday 29th [Page 3]
- Monday 30th [Page 4]
- December 1st Tuesday [Page 4]
- wedns. 2nd [Page 4]
- Thursd. 3rd [Page 5]
- Friday 4th [Page 5]
- Saturday 5th [Page 5]
- Sund. 6th [Page 5]
- Mond. 7th [Page 6]
- Tues 8th [Page 6]
- Wedns. 9th [Page 6]
- Thursd. 10th [Page 7]
- Friday 11th [Page 7]

First page Prev page Next page



jpg 1024x1536 gif 128x192 text/sgml Transcription

The MoA II Repository

What's in the Repository?

- **MoA II XML Encoded Document Objects**
- **MOA2 Serialized Objects**
 - **MOA2 Documents Converted to a Java Object**
 - **Used with the MOA2 Method calls**
 - **If Necessary, XML Encoded Documents are Converted to Serialized Objects “On the Fly”**

The MoA II Repository Object

How does the Client Find Out What's in the Repository?

- **Get a List of Objects in the Repository**
 - Client calls “List Digital Objects(START, COUNT)”
 - Call returns an array of Object Titles and Corresponding Object Identifiers

The MoA II Repository Object

- **Get a Reference to a Specific MoA II Object**
 - Client Calls “Get MOA2 Object(Object Identifier)”
 - Call Returns that MoA II Object Reference

MoA II Shared Objects

Note: these next three objects are parts of the MoA II Object packaged to be used by the Client.

- **The DSDescriptors Object**
 - One for each resource datastream that makes up a the object
 - A resource is a digitized page image, TEI encoded transcription, etc.
 - DSDescriptors include a user-meaningful description
 - E.g., JPEG 1024 x1536

MoA II Shared Objects

- **The Manifestation Set Object**
 - **Manifestation Set is a logically related aggregation of DSDescriptors**
 - **For example, the first page of the Breen Diary may have a manifestation set that include a GIF thumbnail, a screen size JPEG image, the high resolution TIFF archival image**
 - **Manifestation Sets include a user-meaningful description**
 - **Thursday the 26th [Page3], Chapter 4, etc.**

MoA II Shared Objects

- **The Resource Object**
 - **Contains the Actual Bytes of the Resource**
 - **An Array of Bytes that is the resource (e.g., digitized page image, text transcription, etc.)**

Shared Methods to Manipulate MoA II Objects

- **“Get Manifestation Sets(CONTENTS)”**
 - Used to get the Table of Content
 - Delivered as an array of manifestation sets that can be unpacked into the TOC tree

- **“Get Resources(ACTION, DSDDescriptor)”**
 - ACTION is NEXT, PREVIOUS, FIRST, Etc.
 - Used to deliver a resource that will be presented in the Clients resource frame

Shared Methods to Manipulate MoA II Objects

- **“Get DSDescriptors(parm)”**
 - **Used to deliver available thumbnail sets, or**
 - **“Get DSDescriptors(THUMBNAILS)”**
 - **“Get Resources(THIS, DSDescriptor,COUNT)”**
 - **The XML encoded document to the Client**
 - **“Get DSDescriptors(SOURCE)”**
 - **“Get Resources (THIS, DSDescriptor)”**
- **“Get URL(DSDescriptor)”**
 - **Used to deliver the URL of a resource not supported by JAVA Image Class (e.g. a TIFF File)**

Examples of Page Turning and Other Navigation Requests

MoA II Applet Viewer Starts Up

- **Applet Loads and Uses the RMI Registry to Find Active MoA II Compliant Repositories**
- **The Client Calls the Repository Method “List Digital Objects(START, COUNT)”**
 - **The call returns an array of Object Titles and Corresponding Object Identifiers**
- **The Client Makes the Object Titles Available to the User**

MoA II Document Activation

- **User Picks a Title (MoA II document to view)**
- **Client Calls “Get MOA2 Object(Object Identifier)” & is Returned the Object Reference**

MoA II Document Activation

- **Client Calls “Get Manifestation Sets (CONTENTS)”**
 - the Table of Content is returned as an array of manifestation sets , which is unpacked into a tree
 - The TOC is then painted into the Clients TOC frame
- **Client Calls “Get Resources”**
 - Passes in the default DSDDescriptor for the TOC root and is return the resource, which is painted into the Client’s resource frame

Page Turning

- **Simple**
 - **User requests a page turn**
 - **Client Calls**
 - “Get Resources(NEXT, DSDescriptor)”, or
 - “Get Resources(Previous, DSDescriptor)”, or
 - “Get Resources(First, DSDescriptor)”
 - **The Call Returns the Resource Object to be displayed in the Clients Resource Frame**

Page Turning

- **Complex: Two “side by side” resources**
 - User requests a page turn
 - Client Calls
 - “Get Resources(NEXT, DSDescriptor, DSDescriptor)”
 - “Get Resources(Previous, DSDescriptor, DSDescriptor)”
 - “Get Resources(First, DSDescriptor, DSDescriptor)”
 - The Call Returns both Resource Object to be displayed in the Clients Resource Frames

Requesting an Alternate Manifestation

- User requests the new manifestation or clicks inside TOC
- Client Calls
 - “Get Resources(THIS, DSDDescriptor)
 - Call returns the new resource to display”

Summary

- Call “Get MOA2 Object(Object Identifier)”
 - Repository call to activate a MOA2 Object
- Calls “Get Manifestation Sets (CONTENTS)”
 - Get the TOC
- Call “Get Resources(<some-action>, DSDescriptor)”
 - Enable navigation and return a new resource to display